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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,035	07/30/2003	Delmar L. Barker	RAYTP0124US	9457
43076	7590	08/23/2005	EXAMINER EVANS, FANNIE L	
MARK D. SARALINO (GENERAL) RENNER, OTTO, BOISSELLE & SKLAR, LLP 1621 EUCLID AVENUE, NINETEENTH FLOOR CLEVELAND, OH 44115-2191			ART UNIT 2877	PAPER NUMBER

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/630,035	BARKER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	F. L. Evans	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31, 38, 39, 44 and 46 is/are rejected.
- 7) ☒ Claim(s) 32-37, 40-43, 45 and 47-49 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 30, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0304</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *The Information Disclosure Statement*

The prior art cited in the information disclosure statement filed on March 5, 2004 has been considered.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-28 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The system set forth in claims 1-28 is indefinite in that independent claim 1 fails to set forth the relationship between the enhancement mechanism and the object of interest such that the object can be classified based on a Raman signature.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 11, 12, 20, 22, 29-31, 38, 39, 44 and 46 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Milne et al (US 5,017,007).

Milne et al disclose a system for increasing Raman emissions from a plurality of Raman active molecules (RAMs) and making an identification therefrom, comprising: an enhancement mechanism (line 54 of column 4 to line 6 of column 5), wherein the enhancement mechanism enhances Raman scattering from the plurality of Raman active molecules (RAMs); and an interrogator (line 58 of column 6 to line 55

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of column 7) for transmitting a signal toward an object of interest and receiving a return signal therefrom, wherein the return signal includes a Raman signature, and the interrogator classifies an object based on the Raman signature. The enhancement mechanism enhances a local electric field about the enhancement mechanism and the electric field is enhanced by plasmon resonance (lines 13-23 of column 11). The interrogator includes a near infra-red excitation source (lines 37-64 of column 11). The interrogator classifies/identifies the object as safe or hazardous (lines 12-15 of column 10). Air samples are collected from a suspected region and combined with the enhancement mechanism (lines 30-32 of column 10). The system of Milne et al performs the steps of method claims 29-31, 38, 39, 44 and 46. Applicant's attention is directed to Milne et al in its entirety.

*Allowable Subject Matter*

Claims 32-37, 40-43, 45 and 47-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 32, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for increasing Raman emissions from a plurality of Raman active molecules (RAMs) and making an identification therefrom, comprising the step of providing an enhancement mechanism includes providing a plurality of photonic crystals, and the plurality of photonic crystals are selected to have a photonic bandgap such that a Raman signal is outside the photonic bandgap, in combination with the rest of the limitations of the claim.

As to claim 40, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for increasing Raman emissions from a plurality of Raman active molecules (RAMs) and making an identification therefrom, comprising the step of classifying an object based on a Raman signature includes classifying the object as friend or foe, in combination with the rest of the limitations of the claim.

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As to claim 45, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for increasing Raman emissions from a plurality of Raman active molecules (RAMs) and making an identification therefrom, comprising the step of providing an enhancement mechanism includes dispersing the enhancement mechanism over a suspect region, in combination with the rest of the limitations of the claim.

As to claim 47, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for increasing Raman emissions from a plurality of Raman active molecules (RAMs) and making an identification therefrom, comprising the step of trapping airborne matter in a filter, in combination with the rest of the limitations of the claim.

As to claim 49, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for increasing Raman emissions from a plurality of Raman active molecules (RAMs) and making an identification therefrom, comprising the step of collecting airborne matter includes using an unmanned device to travel into the suspect region, in combination with the rest of the limitations of the claim.

*Additional Prior Art*

Carrabba et al (US 5,255,067) and Grow (US 5,866,430) disclose the use of SERS to identify/classify objects/materials.


*Fax/Telephone Numbers*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner whose telephone number is (571) 272-2414.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext 77. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**F. L. EVANS**  
**PRIMARY EXAMINER**  
**ART UNIT 2877**

fle  
August 19, 2005